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EXAMINER	
NGUYEN, TOAN D	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/755,512	KLOTH, RAYMOND	
	Examiner	Art Unit	
	Toan D. Nguyen	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,8-11,13-16,18-20 and 24-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,8-11,13-16,18-20 and 24-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 9-11, 13-16, 18-20, 24, 26, 28, 30, 32-34, and 36-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Crayford (US 6,269,098).

For claim 1, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame (received frame) at a port (figure 2, references 60 and 62, col. 5 lines 25-32) of said switch (figure 1, reference 12, col. 3 lines 43), said received frame containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

accessing a virtual local area network (VLAN) value associated with the port (Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

deriving a virtual local area network (derived VLAN) value in response to said

one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said VLAN value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said derived VLAN value for use internal to said switch (col. 3 lines 32-33 and col. 6 lines 40-42);

accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) with said derived VLAN value to determine a destination address (col. 8 lines 32-62); and

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 9, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

a port (figure 2, references 60 and 62, col. 5 lines 25-32) to receive a frame (received frame), said port associated with a virtual local area network (VLAN) value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said received frame containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

a parsing engine (figure 4, reference IRC 68, col. 7 lines 10-13) to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said VLAN value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said derived VLAN for use internal to said switch (col. 3 lines 32-33, and col. 6 lines 40-42);

a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) configured to use said derived VLAN value as an input and to yield a destination address as an output (col. 8 lines 32-62); and

an output port to transmit said received frame, in response to said derived VLAN value, to said destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 10, Crayford discloses a forwarding engine (figure 4, reference 68, col. 8 lines 8-9) for forwarding said received frame in response to said derived VLAN value and said destination address (col. 8 lines 55-61).

For claim 11, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame (received frame) at a port (figure 2, references 60 and 62, col. 5 lines 25-32) of said switch (figure 1, reference 12, col. 3 lines 43), said received frame containing one or more indicia of frame type (col. 7 lines 6-10 and col. 8 lines 16-17) said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

accessing a virtual local area network (VLAN) value associated with the port (Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said VLAN value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said derived VLAN value for use internal to said switch (col. 3 lines 32-33, and col. 6 lines 40-42);

accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) with said derived VLAN value to determine a destination address (col. 8 lines 32-62); and

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 13, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

using one or more indicia of frame type found in a received frame (col. 7 lines 6-10) a to derive a virtual local area network (derived VLAN) value, said derived VLAN value used internal to said switch, said derived VLAN value different from a VLAN value associated the frame external to the switch (Abstract lines 4-8, and figure 8, col. 8 lines 16-62); and

using the derived VLAN value in making forwarding decisions (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 14, Crayford discloses controlling broadcast domains in the computer network by forwarding in response to the derived VLAN value (col. 6 lines 61-67 and col. 8 lines 32-62).

For claim 15, Crayford discloses using an indicia of a receiving port in constructing the derived VLAN value (col. 7 lines 6-10).

For claim 16, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

using one or more indicia of frame type found in a received frame (col. 7 lines 6-10) a to derive a virtual local area network (derived VLAN) value, said derived VLAN used internal to said switch, said derived VLAN value different from a VLAN value associated the frame external to the switch (Abstract lines 4-8, and figure 8, col. 8 lines 16-62);

using the derived VLAN value in making forwarding decisions (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 18, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame (received frame) at a port (figure 2, references 60 and 62, col. 5 lines 25-32) of said switch (figure 1, reference 12, col. 3 lines 43), said received frame containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

accessing a port index value associated with the port (Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said port index value (Abstract lines 4-8, and figure 8, col. 8 lines 16-62);

accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) with said derived VLAN value to determine a destination address (col. 8 lines 32-62); and

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 19, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

a port (figure 2, references 60 and 62, col. 5 lines 25-32) to receive a frame (received frame), said port associated with a index value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said received frame containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

a parsing engine (figure 4, reference IRC 68, col. 7 lines 10-13) to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said index value (col. 6 lines 39-42, and col. 8 lines 16-62);

a forwarding data base configured (figure 5, reference 106, col. 7 lines 23-35) to use said derived VLAN value as input and to yield a destination address as output (col. 8 lines 32-62); and

an output port to transmit said received frame, in response to said derived VLAN value, to said destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 20, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

means for receiving a frame (received frame), said received frame containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or

more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

means for accessing an index value associated with the means for receiving a frame (Abstract lines 4-8, and figure 8, col. 8 lines 16-48);

means for deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said index value (Abstract lines 4-8, and figure 8, col. 8 lines 16-48);

means for accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) with said derived VLAN value to determine a destination address (col. 8 lines 32-62); and

means for forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 24, Crayford discloses wherein the step of deriving further comprises:

generating a protocol code from the indicia of protocol type (col. 8 lines 23-27);

combining the protocol code with the VLAN value to produce a mapping address (col. 8 lines 37-62);

accessing a memory structure with the mapping address to obtain the derived VLAN value (col. 8 lines 37-62).

For claim 26, Crayford discloses further comprising:

a protocol mapping table to map the indicia of protocol type to a protocol code (col. 8 lines 37-62);

wherein the parsing engine is configured to combine the protocol code with the VLAN value to produce a mapping address and to access a memory structure with the mapping address to obtain the derived VLAN (col. 8 lines 37-62).

For claim 28, Crayford discloses wherein the step of deriving further comprises:

generating a protocol code from the indicia of protocol type (col. 8 lines 23-27);

combining the protocol code with the index value to produce a mapping address; (col. 8 lines 37-62);

accessing a memory structure with the mapping address to obtain the derived VLAN (col. 8 lines 37-62).

For claim 30, Crayford discloses further comprising:

a protocol mapping table to map the indicia of protocol type to a protocol code (col. 8 lines 37-62);

wherein the parsing engine is configured to combine the protocol code with the index value to produce a mapping address and to access a memory structure with the mapping address to obtain the derived VLAN (col. 8 lines 37-62).

For claim 32, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame at an input port (figure 2, references 60 and 62, col. 5 lines 25-32), the frame including a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

accessing a virtual local area network (VLAN) value associated with the input port (Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

associating the frame with a protocol code based on the frame's protocol type

(col. 8 lines 32-34);

concatenating the protocol code together with the VLAN value to produce a mapping address (col. 8 lines 37-62);

applying the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and the VLAN value associated with the input port, the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the input port, but having a different protocol type (col. 8 lines 37-62);

accessing a forwarding database (figure 5, reference 106, col. 7 lines 23-35) with the derived VLAN value to determine a destination address (col. 8 lines 32-62); and

forwarding the frame to an output port for transmission to the destination address (col. 8 lines 32-62, and col. 9 lines 30-33).

For claim 33, Crayford discloses wherein the step of associating further comprises: mapping the protocol type to a protocol code using a protocol mapping table (col. 8 lines 37-62).

For claim 34, Crayford discloses wherein the frame includes the protocol type in a protocol type field (col. 8 lines 27-31).

For claim 36, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

an input port (figure 2, references 60 and 62, col. 5 lines 25-32) to receive a frame, the frame including a protocol type (figure 7A and figure 7B, col. 8 lines 23-27), the input port associated with a virtual local area network (VLAN) value (Abstract lines

4-8, and figure 8, col. 8 lines 37-48);

a protocol mapping table to map the frame's protocol type to a protocol code (col. 8 lines 37-62);

an engine to concatenate the protocol code together with the VLAN value to produce a mapping address, and to apply the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and VLAN value associated with the input port, the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the input port, but having a different protocol type (col. 8 lines 37-62);

a forwarding database (figure 5, reference 106, col. 7 lines 23-35) to use the derived VLAN value to determine a destination address (col. 8 lines 32-62); and

an output port to transmit the frame to the destination address (col. 8 lines 32-62, and col. 9 lines 30-33).

For claim 37, Crayford discloses wherein the frame includes the protocol type in a protocol type field (col. 8 lines 27-31).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4, 6, 8, 25, 27, 29, 31, 35, and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crayford (US 6,269,098) in view of Shani (US 6,023,563).

For claims 4, 8, 25, 27, 29, 31, 35, 38, 40 and 42, Crayond does not expressly disclose wherein said indicia of frame type further comprises a subnet value. In an analogous art, Shani discloses wherein said indicia of frame type designation comprises a subnet value (Table 2a, col. 9 line 51).

Shani discloses deriving a MAC address from said derived VLAN value and forwarding said received frame to a port for transmission to a destination having said MAC address (Table 1, col. 10 lines 10-12 as set forth in claim 8); wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type (col. 4 line 62 as set forth in claims 25, 27, 29, 31, 35, 38, 40, and 42).

One skilled in the art would have recognized the wherein said indicia of frame type further comprises a subnet value, and would have applied Shani's database structure in Crayford's frame. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shani's networking switch having the network presence of a bridge in Crayford's method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme with the motivation being to provide the Port-Assignment (PA) database uses the port number as a unique key entry and correlates multiple VLAN and network/subnet numbers (col. 9 lines 49-51).

For claim 39, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame at a input port, the frame including a protocol type and a source address (figure 7A and figure 7B, col. 8 lines 23-30);

in response to the protocol type indicating a particular protocol type (col. 8 lines 25-31);

accessing a forwarding database with the derived VLAN value to determine a destination address (col. 8 lines 32-62); and

forwarding the frame to an output port for transmission to the destination address (col. 8 lines 32-62, and col. 9 lines 30-33).

However, Crayford does not expressly disclose:

parsing the source address to obtain a subnet value;

applying the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the input port, but having a different subnet value.

In an analogous art, Shani discloses:

parsing the source address to obtain a subnet value (col. 10 lines 25-27)

applying the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the input port, but having a different subnet value (col. 9 lines 49-51).

One skilled in the art would have recognized the parsing the source address to obtain a subnet value, and would have applied Shani's database structure in Crayford's frame. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shani's networking switch having the network presence of a

bridge in Crayford's method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme with the motivation being to provide the Port-Assignment (PA) database uses the port number as a unique key entry and correlates multiple VLAN and network/subnet numbers (col. 9 lines 49-51).

For claim 41, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

an input port to receive a frame, the frame including a protocol type and a source address (figure 7A and figure 7B, col. 8 lines 23-30);

an engine to, in response to the protocol type indicating a particular protocol type (col. 8 lines 25-31);

a forwarding database to use the derived VLAN value to determine a destination address (col. 8 lines 32-62); and

an output port to transmit the frame to the destination address (col. 8 lines 32-62, and col. 9 lines 30-33).

However, Crayford does not expressly disclose:

parse the source address to obtain a subnet value, and to apply the subnet value to a memory structure to map the subnet value to a derived VLAN value, the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the input port, but having a different subnet value.

In an analogous art, Shani discloses:

parse the source address to obtain a subnet value (col. 10 lines 25-27), and to apply the subnet value to a memory structure to map the subnet value to a derived

VLAN value, the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the input port, but having a different subnet value (col. 9 lines 49-51).

One skilled in the art would have recognized the parse the source address to obtain a subnet value, and would have applied Shani's database structure in Crayford's frame. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shani's networking switch having the network presence of a bridge in Crayford's method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme with the motivation being to provide the Port-Assignment (PA) database uses the port number as a unique key entry and correlates multiple VLAN and network/subnet numbers (col. 9 lines 49-51).

Response to Arguments

5. Applicant's arguments filed 03/08/07 have been fully considered but they are not persuasive.

The applicant argues with respect to claim 32 on page 14, fourth paragraph, that Crayford is legally insufficient to anticipate or make obvious the Applicant's claim due to at least the absence of "concatenating the protocol code together with the VLAN value to produce a mapping address" and "applying the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and the VLAN value associated with the input port" and "the derived VLAN value to differ form at least one other derived VLAN value for another frame received on the

input port, but having a different protocol type." The examiner disagrees. The examiner refers to the Office action with regard to claim 32.

The applicant further argues with respect to claim 1 on page 16, second paragraph, that Crayford is legally insufficient tote the present claim under 35 U.S.C. because of the absence of the Applicant's claimed novel "said one or more indicia of frame type including an indicia of a protocol type" and "deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said VLAN value." The examiner disagrees. Applicant's attention is directed to Crayford patent at col. 8 lines 25-34 (see figure 7A and figure 7B), where Crayford clearly teaches "Untagged frames, as shown in FIG. 7A are formatted in accordance with IEEE 802.3 and tagged frames are formatted in accordance with IEEE 802.1d (said one or more indicia of frame type means)...Each tagged frame 142 also includes a VLAN tag including a 2-byte VLAN Ethernet type field (frame type including an indicia of a protocol type means)..." Crayford further teaches at col. 8 lines 16-62 (see figure 8), "The host processor 120 maps the 16 bit VLAN Ids into 5-bit VLAN index in a VLAN index-to-identifier (ID) table...In this manner, the entire 16-bit VLAN identifier does not have to be transmitted with the frame forwarding information to the port vector FIFO 63. Instead, only a 5-bit VLAN index (said VLAN value means) is transmitted along with the frame forwarding information, thereby saving data transmission time."

With respect to claims 4, 8, 25, 27, and 31, the applicant argues on page 16, fourth paragraph, that these claims are dependent from base claims. These base claims 1, 9, and 19 are rejected. Therefore, they are also rejected.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D. Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN

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